DOCUMENT RESUME

ED 271 114 IR 051 551

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TITLE The Dialogue of Metaphysics and Empirics: Librarianship as Platonic and Aristotelian.
PUB DATE [Dec 81]
NOTE 71p.
PUB TYPE Information Analyses (070) -- Viewpoints (120)

EDRS PRICE MF01/PC03 Plus Postage.
DESCRIPTORS *Educational Theories; Information Services; *Information Theory; *Library Science; Models; *Philosophy; Position Papers
IDENTIFIERS *Metaphysics

ABSTRACT

Arguing that most writing on library and information service is empirical or devoted to reporting what happened, this paper attempts to promote conversation between the empiricists and the idealists or metaphysicians of library and information studies. The paper includes the following sections: (1) Professor Peter Kien and the Metaphysical Course of the Theory of Librarianship; (2) The History of Theory; (3) The Inevitable Materiality of Theory; (4) The General Domain of a Materialized Theory of Librarianship; (5) Contemporary Theory of Librarianship; (6) The Chicago School: A Small Eddy in the Stream; (7) The Infrastructure of a Theory of Librarianship; (8) The Materialization of Mind; (9) Mathematics and the Abandonment of the Form-Matter Distinction; (10) Non-Metaphysical Directions for the Theory of Librarianship; (11) De-Mystifying the "Certainty" of Metaphysical Theory; (12) Beyond the Platonic Captivity; (13) The Form of a New Theory of Librarianship; (14) The Struggle To Falsify Theory; (15) The Severe Difficulty of Falisfication; (16) What a Theory of Librarianship Should Not Resemble; (17) The Construction of Knowledge in Librarianship; (18) Facts Requeathed by Theory; (19) Pluralism's Impact on the Theory of Librarianship; (20) Deriving a Problematic "Ought" from a Questionable "Is"; and (21) The Form of a Theory of Librarianship: The Major Themes. Sixty notes and references are provided. (THC)

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THE DIALOGUE OF METAPHYSICS AND EMPIRICS

LIBRARIANSHIP AS PLATONIC AND ARISTOTELIAN

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The Need for this Essay

Much as we may hate to admit it, the practice of librarianship has been characterized by a raw and untutored empiricism. We solve our everyday problems in a practical, trial-and-error manner. While there is much to be said about the success of this practicality, the approach itself has troubled our more theoretically inclined brothers and sisters. Their reaction has been to erect a theory of librarianship which is profoundly divorced from the push-and-pull of problem solving and which, if not metaphysical, is most certainly detached from the material world. For the ad hoc application of a naive empiricism, they have substituted the global application of an equally naive idealism. Their extreme response has been to replace an unhappy empiricism with a comparably unhappy idealism. A more viable answer would have been to let idealism temper empiricism's naïveté and to let empiricism reduce idealism's naïveté.

My purpose here will be to show that ideas have their material implications and that, conversely, matter has its impact on ideas. It will be demonstrated that, from the standpoint of form, a successful theory of librarianship is one which promotes the dialectical

interplay of ideas and matter. Such a theory will be impossible to ratify and extremely difficult to falsify. Our sense of its success will be almost intuitive. Although dialectical form is necessary to the success of a theory, it does not guarantee such success. When the terrain of librarianship is littered with theories of this form, our intuitions will identify those with promise. At the moment, there are few, if any, such theories and we are awaiting the emergence of a theoretical universe in librarianship which is less monolithically idealist and more ardently pluralist. The marketplace of theory is exceedingly hospitable. The more entrants there are, the more survivors there will be. The more survivors there are, the better librarianship will be. Our task is to develop theories which are dialectical in form and to see to it that only the fittest survive.

Professor Peter Kien and the Metaphysical Course of the Theory of Librarianship

Elias Canetti, as winners of the Nobel Prize for Literature are wont to be, is concerned with the relationship between ideas and matter, form and content, mind and body. Dr. Peter Kien, the protagonist of his major novel, Auto-da-Fé, lives a hermetic existence in a Viennese apartment among the books of his 25,000-volume library. He is a Sinologist whose nearly exclusive reality are the Chinese characters ever so delicately brushstroked onto silk. As he prepares to write a book on Oriental thought, Kien knows little of the economic decay and moral decline so evident below on the streets of the cosmopolitan city in which he resides. Marriage eventually propels him

into the real world, a world for which he is entirely unprepared, and his desperate response is to set aflame both himself and his incomparable library. Having perished in the fire, neither the professor nor his books will have to endure the corrupting reality of Central Europe.

The original title of Canetti's novel was Kant Catches Fire and its leading figure was to be a man named Kant, not Kien.[1] This should not surprise us since Kien, like Kant, is a dedicated idealist, a man of the spirit incapable of that compromise which would make him simultaneously a man of matter. Indeed, the author's denoument, Kien's suicide in Part Three of the novel, aptly titled "The World in the Head," is a consequence of the failure of "A Head Without a World" - the hermit in his library - to cope with a "Headless World," the disheveled world of thiefs, beggars, and prostitutes that was the Austrian capital between 1925 and 1935.[2] Read allegorically, the Kien of the apartment exemplifies librarianship's contemporary quest for theory, a project which has been pursued almost entirely in the head, a metaphysical enterprise as oblivious to its empirical implications as a metaphysics is to its physics, Aristotle's and Alfred North Whitehead's being the notable exceptions. In its search for theory, librarianship can surely avoid Kien's fate, the death that flowed from the failure to connect head and world, but only if it recognizes in that theory the interaction of ideas and matter, the metaphysical and the physical, idealism and empiricism, the Platonic and the Aristotelian.

The History of Theory

The notion that a theory houses its material correlates or

implications finds its remote genesis in the disembodied God of Abraham, the Jewish patriarch. That distinction between spirit and matter, the ideal and the real, is refined by Plato and Aristotle. For nearly 2500 years, theory has experienced a rhythm of materialization, de-materialization, and re-materialization. The physical implications of theory have alternately been evident, obscure, and evident again. To the Greek intelligentsia of the fifth and fourth centuries B.C., the material implications of theory were highly visible. They were not that far removed in time from the all-out empiricism of Homer despite their strong effort to substitute abstraction and philosophy for concreteness and the epic. In the dematerialized theory of the Schoolmen in the thirteenth century A.D., empirical correlates were frequently overlooked. Theory was rematerialized during the Scientific Revolution of the late sixteenth and seventeenth centuries A.D. with the reunion of reason and observation, the logical and the empirical. During the past century, however, theory has again undergone a de-materialization, a kind of second Platonic captivity or Pythagorean conversion, which seems related to Michel Foucault's contention that human discourse is marked by an ever-widening gap between the word and that real-world thing to which it refers or, put differently, between the mathematical symbol and its empirical counterpart.[3] The theoreticians of librarianship have had no immunity whatever from this idealization of theory. In fact, they appear to have resisted inoculation against it.

While the material implications of theory have lived a virtually <u>sub rosa</u> existence during the last century, their force has been on

the wane since the late eighteenth century A.D. The progressively precarious existence of the material correlates of theory deeply concerned Hegel, Darwin, Marx, Nietzsche, Freud, and Einstein, all of whom were dedicated to reducing the hegemony of metaphysics in theory. Georg Wilhelm Friedrich Hegel (1770-1831) was, it is well to remember, as much a dialectical materialist as a dialectical idealist, despite what subsequent commentators have said about Marx's materialization of Hegel by standing him on head and inserting that head into the ground. We are inclined to remember the escape from matter of Hegel's spirit. We do not often enough remember the periodic incarnation of that spirit. Material nature, argued Charles Darwin (1809-1882), operated directly on the raw material provided by random genetic mutation to produce change in the human species. Conversely, de-materialized theory of organic modification suggested that a spiritual force embedded in the organism itself was responsible for such change.

Marx, Nietzsche, Freud, and Einstein were also devoted to the materialization of theory. For Karl Marx (1818-1883), consciousness, which embraced theory, was a product of class relations, of immersion in the physical. Similarly, Friedrich Wilhelm Nietzsche (1844-1900) insisted that our ethical theories, our ideas of good and evil, were formulated by a power elite, the power of which was based on the control of matter, a control that could vanish were others to define what is good and what is evil. Sigmund Freud (1856-1939), a neurologist by training, insisted upon the physiological embodiment of the pervasively influential unconscious mind. Finally, Albert Einstein's (1879-1955) realist epistemology of physics presupposed that theory implied its own determined set ("God does not play dice") of empirical

correlates. During the course of nearly two centuries, these great intellects sought to redeem theory from its Platonic incarceration. The present nature of theorizing in librarianship and other subjects suggests that they have not succeeded.

The Inevitable Materiality of Theory

Properly formulated, a theory yields its material implications to even a casual gaze. If existentialists can assert that existence is prior to essence - that men and women define themselves by their actions - then it can surely be argued that a theory defines its encounter with matter. Theory is directional in its intersection with matter. It inclines the theoretician, on a first simple reading, to be sensitive only to that matter within the domain of the theory. On a second, more visceral, reading, it prompts the theoretican to be sensitive to only that matter within the domain of the theory which is supportive of the theory. Because of its disturbing tendency to be self-confirming, the material correlations of a theory can be discerned in the theory itself quite in advance of any actual empirical inquiry.

It may be part of a theory of librarianship, for example, that there will invariably be tension between the public services and technical services personnel in libraries. The theory may explain this tension by suggesting that it is a consequence of diametrically opposed world views: Reference librarians are people-oriented while catalogers are object-oriented. Before this theory is fed forward onto the physical world, its material consequences are obvious. Implicit in the theory are several empirical phenomena - libraries, public services personnel, technical services personnel, people-orientation, object-orientation, and tension. The theoretician who ultimately feeds that theory forward

onto the empirical world will have been rendered psychologically captive of the theory's material implications in advance of his or her application of it to the world. Because the structure of one's observations is so powerfully influenced by the structure of one's theory, one is likely to find an orientation to people among reference librarians, an orientation to objects among catalogers, and a tension between reference librarians and catalogers, even if such is not the case.

The directive force of theory, as well as the obviousness of its material implications, is related to the way in which theories are derived. The construction of a theory sometimes engages the highest powers of the imagination, but it almost always involves observation. Since our observations ordinarily worm themselves into our theories, we are invited, in advance of the juxtaposition of those theories with the material world, to make observations similar to those which led to the formulation of the theory. There is worked deeply into the bowels of a theory a measure of both self-fulfillment and circularity vis-a-vis what is material. The character of my sample theory will retard, perhaps inhibit entirely, the feedback to me of any evidence of amicability between public services and technical services librarians. There is an asymmetry in a theory's confrontation with the empirical world, in the actual process of its materialization. In the hands of one only marginally devoted to it, a theory will find in matter precisely what it is looking for. It will not find that which it would ignore. However asymmetrical they may be, a satisfactorily fabricated theory has material implications. The materialization of theory is inevitable. Counterintuitive though it may seem, that materialization exists prior to any empirical test of the theory.

The General Domain of a Materialized Theory of Librarianship

A theory of librarianship, on the above understanding, must comprehend not only the physical vehicles of communication (e.g., physical books, physical journals, physical reports) and the theories, or other propositions, inscribed in those vehicles (i.e., the intellectual book of Jesse Shera or Archibald MacLeish), but also those sectors of the material world to which the theories, by implication, refer. A well-constructed theory is never just a disembodied entity. It is at all times the residence of its physical implications. Thus, a theory of librarianship must subsume the physical vehicle which is the book, the intellectual vehicle which is the theory in the book, and the material implications that are packed into the intellectual vehicle, which implications, when projected onto the material world, tend to be asymmetrically self-validating. A theory, even in repose, has at least two connections with the universe of matter. In the first place, the theory is engraved on some physical medium - a book, a computer memory, a human brain. Secondly, and just as importantly, there is lodged in the innards of that theory its empirical correlates. A prominent portiom of a theory's baggage are its material horizons. Any theory of librarianship which would ignore that fact remains incomplete.

Contemporary Theory of Librarianship

With the partial exception of the Chicago School, most notably some features of the work of Pierce Butler and Jesse Shera, attempts to fabricate a theory of librarianship during the past fifty years have had a strongly idealist, even metaphysical, cast. Speaking at The University of Chicago during the summer of 1964, Abraham Kaplan,

an extremely accessible and lucid philosopher, insisted on the similarity between his subject and librarianship. Both, he contended, were metadisciplines standing well beyond the give-and-take of the empirical field which were primarily concerned with the configuration of that field. A philosophical enterprise or a librarianship focused largely on substance or content would rapidly, suggested Kaplan, consign itself to specialization, the encyclopedic grasp of knowledge no longer serving as a viable alternative. It was most appropriate, in his view, that the two subjects interest themselves in structure rather than substance, form rather than content. Toward the end of his presentation, Kaplan summarized his argument that librarianship is an analogue of philosophy:

> There are many points of kinship. Like your profession, mine also has thrust upon it, as its appropriate domain, the whole of knowledge, the whole of culture; nothing is supposed to be foreign to us, and we ought to be prepared under suitable circumstances to be helpful with regard to any and every area of human concern. Like you, we cannot even begin to occupy ourselves with the substance and content of this endless domain, but only with its form, with its structure, with its order, with the interrelations of the various parts.[4]

Just as the metaphysical follows and reflects upon the physical, so librarianship, in Professor Kaplan's judgment, should preoccupy itself, at some safe distance, with the way the stuff of the world is arranged. There are clearly no dirty hands here. This white-glove metaphysics of librarianship opposes, at every turn, the historic "hand-in-the-wound" empiricism of the library practitioner. As suggested earlier, metaphysical theory is much too strong a reaction to the unbridled empiricism of library practice.

Although it is difficult to characterize in its entirety, Toward a Theory of Librarianship, a 1973 festschrift for Jesse Shera, edited

by his friend and colleague, Conrad H. Rawski, the weltanschauung of the editor, himself a major theoretician of librarianship, is toward Kaplan's obsession with structure and form. This is understandable. When the papers for this volume were written, during 1969 and 1970, there was considerable interest in the structure of the disciplines or fields of knowledge inspired, in very large measure, by the thinking of Jerome Bruner, Joseph Schwab, Israel Scheffler, and a few others. Moreover, at about the time the book was published, the structuralism of the Parisian semiologists, led by Claude Lévi-Strauss, was coming into vogue. Finally, the book's emphasis on the theoretics of idealism, as contrasted with the theoretics of matter, is clearly a reaction to librarianship's longstanding infatuation with the empirics of practice. At all events, there is the whiff of Kaplanism here, an enchantment with form at the expense of substance.

In his "Introduction" to Toward a Theory of Librarianship, the editor asks: "How does one go about making a path that leads out of the cluster of natural history data toward a theory of librarianship?"[5] In his contribution to the volume, "The Interdisciplinarity of Librarianship," Professor Rawski answers the question: "In order to know we structure....The notion of the realm of knowledge as a set of subjects, areas, fields, disciplines, and, if you will, attendant axiomatic systems, which exhibit some kind of order, is age-old."[6] The prescription is unambiguous: To know librarianship, one must structure it or map it. Sadly, however, a map is not infected by the rise and fall of the actual physical landscape which it seeks to portray. Even a topographical map is flat. Once again, that which is empirical is abandoned in favor of the more rarefied realm of form.

For more than two decades, the metaphysics of librarianship has

entranced Joseph Z. Nitecki. He now labels the philosophical edifice which he has built a metalibrarianship and he is obviously committed to elevating theoretical inquiry well above the rather untidy world in which most librarians exist. In his scheme, three metaphors - proceduralism, contextualism, and conceptualism - are employed to structure the relationships among three primitive, or undefined, entities - book, user, and knowledge - or among sets consisting of these three entities in various relations with one another. One wonders immediately whether knowledge, in any significant sense, can occupy a category apart from book and user, from records and minds. This is precisely the kind of ontologically questionable category that is invariably thrown up by a radically metaphysical problematic.

Additionally, one might ask of Nitecki whether his use of metaphor is as thoroughly metaphysical as he had hoped it would be. The use of metaphor, of what the late I. A. Richards called "feedforward," involves the imposition of the known upon the unknown. It follows, therefore, that a metalibrarianship in which metaphor is the architectonic is subject to empirical contamination. To serve as a metaphor, something must be known very well indeed. To know something well is to be conversant with it in its material implications as well as in its more abstract aspects. Unlike a number, which has no necessary empirical content and can refer equally well to apples and oranges, a metaphor lives in very close touch with that sensible world from which it is mined. Accordingly, to define the structure of librarianship as three metaphors, each of which has an empirical ancestry, patterning three primitive terms, one of which has an abundantly debatable status, is to propose a theoretical arrangement which has

terrestial, as well as celestial, features. But such is surely not Nitecki's intention. He, like Kaplan and Rawski, is a dedicated metaphysician of librarianship.[7]

Equally metaphysical, but better informed by history, is the theoretic advanced by H. Curtis Wright. From The Oral Antecedents of Greek Librarianship[8] to his many lively essays, Professor Wright has been remarkably blunt and certain about what he takes to be the metaphysical nature of librarianship from the Old Greeks on. A cogent précis of his angle of vision on librarianship is found in "The Wrong Way to Go," itself a revision of a more descriptively titled piece, "Inquiry in Science and Librarianship"[9]:

> Librarianship and science are antithetical as knowledge systems because the substance of the former is instrumental to the latter and vice versa. This is revealed by the diametric oppositions of (a) their objects and methods of study and (b) their objects and means of mastery. The resulting differences between them may be summarized as follows: (1) The object of study in science is matter; in librarianship it is form. (2) The method of study is empirical in science; in librarianship it is rational. (3) The object of mastery is the physics of experience in science; in librarianship it is the metaphysics of thought. (4) The means of mastery is formal in science; in librarianship it is material.[10]

If one excludes (4), where the reference is to control rather than to theoretical inquiry, Wright's librarianship is disengaged from the physical sector. A librarianship which subjects form to rational examination with the elaboration of a metaphysics as its goal has only the most tenuous nexus to the world of matter. So far as its object of study and method of study are concerned, Wright is an unabashed admirer of the unadulterated Platonic form in librarianship. He would no doubt be uncomfortable with the debased versions of those forms presently found in library practice.

A final advocate of idealism in librarianship, and one with a decidedly mathematical bent, but a surprisingly unmathematical theory, is Robert A. Fairthorne. His theory of librarianship, which centers on such triadic relationships as code-channel-message and source-designation-destination, bears some resemblance in form to Nitecki's. The pièce de résistance of the theory is a stimulating essay titled "Morphology of 'Information Flow'."[11] The quotes about Information Flow are in this instance meant to suggest that we approach all too metaphorically the behavior of information. More accessible to the lay intellect is his contribution to the Rawski-edited festschrift for Jesse Shera. In this piece, "The Symmetries of Ignorance," Fairthorne expresses his preference for a librarianship which is as detached from the substance of the world as are, in his perception if not mine, those cool, removed abstractions that are the symbols of mathematics. As we shall see a bit later, mathematics is a human construct, not only derived from, but continuously rooted in, the material world. For Fairthorne, on the other hand, the entities of mathematics are at some remove from the universe of objects which may be sensed.

To get the full flavor of Fairthorne's thinking, we must listen carefully to him:

> In order to help people find out what people have said, the librarian must be knowledgeable about discourse, not what the discourse may be about, if anything. He must therefore know who writes about what, what he has written, where and when, how to get hold of it, the sort of people who read it, what they think about it, what sort of words and language are used, and so forth. But he no more takes part in the discourse than does or should the telegraphist, printer, or computer programmer. If he does, he is no longer acting as a librarian, nor can

he act as a librarian.[12]

In this passage, Fairthorne plays the role of information theorist or bibliometrician to the student of semantics, though it must be admitted that his later work reflects a much greater appreciation of semantics. He is concerned here, however, with knowledge's reverberation within the individual and within classes of individuals, with its behavior and the echoes thereof, but little, if at all, with its content or meaning. His librarian is as remote from the substantive universe as are the yellowed files of a Konradian social worker from the cries of children and the moans of women, from the smell of urine and the abusive parent. Fairthorne's theory of librarianship smacks of the laissez-faire. It is as disengaged from the world as was, seemingly, the mathematics in which he was trained.

The Chicago School: A Small Eddy in the Stream

We have seen that the theory of librarianship reflects the strong metaphysical proclivity of its devotees. The theoreticians of librarianship seem to have taken a kind of Faustian clue from the taxonomists and classifiers in our field. They appear determined to impose on a recalcitrant zone of matter the grand order of their metaphysical schemes. In the hands of the Chicago School (my shorthand for those theoreticians at some point associated with the Graduate Library School at The University of Chicago), the theory of librarianship has hardly been exempt from metaphysics, but the metaphysics of Pierce Butler and Jesse Shera has not entirely ignored the material scene.

In An Introduction to Library Science, published in 1933, Butler proposed a social science of librarianship which departed rather markedly from the humanistic librarianship that had been dominant up

to that time. He admonished librarians to be more theoretical and less pragmatic, more objective and less subjective. His "objective realism" called for an empirical investigation of three problems - the sociological, the psychological, and the historical. Nevertheless, Butler filled his work with caveats concerning the eventual success of empiricism. In his view, librarianship as a social science could not probe "the ultimate nature of things" or "the final realities of their relationships"; could not "explore subjective emotional values"; could not easily contend with the unique; could not happily treat of the spirit; and could not "portray in any detail the humanistic side of librarianship."[13] While opposing any absolute idealism, Butler's approach is by no means devoid of nostalgia for the humanistic, even metaphysical, side of librarianship. In fact, given his view of librarianship's basic complementarity, there seems little doubt that Volume Two of An Introduction to Library Science would have been an extended meditation on those humane and spiritual dimensions of the field that he held at bay only with the greatest difficulty in the book he actually produced. In sum, Butler's theory of librarianship has the ambivalence of our representation of Janus. He seeks to counter the humanistic librarianship of his time with a library science, but he is a reluctant empiricist prone to the backward look at librarianship as an enterprise of the spirit opaque, in the end, to the methods of science. As a theoretic of librarianship, however, his is the one that captures Jesse H. Shera.

Idealism and empiricism coexist in Shera's theory of librarianship, a theory which is most elaborately articulated in a book titled, not accidently, Introduction to Library Science. At the heart of his

theory is social epistemology, a variant of epistemology in which the emphasis is on how society, rather than the individual, comes to know something. At bottom, social epistemology studies how knowledge affects society or how ideas affect matter. Substituting society for the individual of conventional epistemology, Shera envisions the formulation of "an orderly and comprehensive body of knowledge concerning intellectual differentiation and the integration of knowledge within a complex society" and the identification of the "intellectual forces shaping social structures."[14]

Unlike Marx, who was mainly interested in the source of knowledge, Shera is essentially concerned with the social effects of knowledge. For Marx, knowledge or consciousness or belief are a product of social, ultimately material, relations. For Shera, knowledge is just there, at best the outcome of cerebral activity, at worst as heavenly in its origins as was the knowledge of the nineteenth-century German idealist philosophers so severely chastised by Marx. In his materialism, Marx has matter conditioning knowledge. In his idealism, Shera has knowledge conditioning matter. Marx offers a materialist explanation of why a class thinks as it does. Shera, offering little or no real explanation, simply presents an idealist postulate concerning the way a society learns or knows.

Like Butler's, Shera's library science at least attempts to be empirical, to take into account the comings-and-goings of society. The paradigmatic eddy in both their streams is, nevertheless, a final resort to the ideal. In Butler's case, it is the unshakable remembrance of the spiritual. In Shera's, it is a knowledge seemingly devoid of any empirical genesis. We are not reassured by observations such as "there can be no knowledge without a knower," though this is of some help, or

"knowledge is everything an organism has learned or assimilated - values as well as facts or information - organized according to whatever concepts, images, or relations it has been able to master."[15] These passages lead one to believe that, for Shera, knowledge is an outgrowth of certain privileged structures or forms, much like the idealist images proposed by Kenneth Boulding. There is little evidence here of materialization, of the role of the physical in the creation of knowledge.

There is a second, most distressing, way in which Shera's otherwise admirable theory of librarianship is addicted to idealism. While the social orientation of his theory is gratifying, it is exactly that orientation which makes the theory temptingly subject to the intervention of ideology. In "Social Epistemology, General Semantics, and Librarianship," an essay which is now over twenty years old, he asserted that

> The aim of librarianship, at whatever intellectual level it may operate, is to maximize the social utility of graphic records, whether the patron served is an unlettered child absorbed in his first picture book or an advanced scholar engaged in some esoteric inquiry.... fundamentally, librarianship is the management of knowledge.[16]

About a decade later, Shera contended that "a librarian, however scholarly, is of scant value to society if he cannot translate that scholarship into an effective program of action that will in some way be profitable to the community he is supposed to serve."[17] Fifteen years on, he insisted that "it is the librarian's responsibility to bring the best of the world of books to the user in ways that will most nearly meet his needs, assuming, of course, that those needs are legitimate and not inimical to the best interests and welfare of

society."[18]

Implicit in each of these propositions, but never rendered transparent, is some vision of what constitutes "social utility," of what might be "profitable to the community," and of "what is legitimate and not inimical to the best interests and welfare of society." It is in the construction of such a vision that ideology begins to contaminate metaphysics. If Shera possesses such a vision, we must ask from whence it comes. If he does not possess such a vision, and this is possible despite what is implied in his language, we must inquire as to what individual or group of individuals in the society he would assign the task of formulating such a vision. As was the case with the genesis of knowledge, Shera fails to identify clearly the source of his picture of the good society or, alternatively, to whom he would assign the making of that picture. A librarian might ask: In the service of what ideal emanating from whom by what process is my library to place its collection and services? In the absence of an answer from Shera, one might offer a Marxian or Nietzschean response: It is a society's ruling elite which defines, on behalf of its own interests, what is socially useful, profitable to the community, and legitimate. It goes without saying that a society's rulers can be nasty and coercive in their singular pursuit of that large vision, invariably protective of the status quo, of what they take to be the ideal society. Unless Shera can more clearly delineate his vision and locate its source, librarianship would be well advised to avoid the metaphysical-ideological roulette that is the maximization of the social utility of graphic records.

Having demonstrated the metaphysical or idealist orientation of contemporary theory of librarianship, including that of the otherwise

valuable social theory of librarianship put forward by the Chicago School,[19] this essay now turns to the outline of a theory of librarianship in which matter encroaches upon ideas and ideas impinge upon matter. My purpose is less to propose something terribly original by way of contours for a theory of librarianship than to combat by redirection what seem to me largely unfruitful attempts to develop such a theory.

The Infrastructure of a Theory of Librarianship

Metaphysical theories of librarianship presuppose, in common, that structure can be divorced from substance and that it is structure with which librarianship ought to be concerned. This distinction traces back to the Judeo-Greek separation of form and matter discussed earlier in this essay. It is also a variant of a much newer, but horribly leaky, differentiation between propositions that are true by virtue of their form (e.g., a bachelor is an unmarried man) and propositions that are true by virtue of their matter (e.g., that Nitecki and Shera are theoreticians of librarianship can be validated only by resort to the material evidence). Another way of putting this distinction is to assert that a mathematical expression such as 2 plus 2 equals 4 is formally true while an empirical expression, like "the bear is going over the mountain," is materially true only if such is in actuality the case.

The distinction between structure and substance is difficult to maintain in the presence of forms in which matter is implicit and of matter which wends its way into forms at the time of their creation. Take, for example, the matter of time. Where are we to house time if our world is one in which there is a sharp break between formal

truths, on the one hand, and the contingent, ever-changing, factual truths of our experience, on the other. Time, as Plato recognized, does not respect such a rupture. It belongs to both the timeless world of form and the timeful world of matter. Paradoxically, time can belong simultaneously to the timeless and the timeful. Time is as completely captured by the timeless formalism t, employed by the mathematical physicist, as it is by our empirical experience of movement and lapse in the universe. Its presence in both realms permits time to forge a corridor between form and matter and it is that corridor which begins to obliterate the distinction between the two. The timeful content of our experience penetrates the timeless sector of mathematical form and the timeless form attaches itself to the timeful content when time itself is one's subject. The time of experience cannot avoid the time of abstraction and the time of abstraction cannot ignore the time of experience.[20] Unlike the color red as a site on the electromagnetic spectrum and the color red as it is experienced in human perception, two very different things, the time of physical theory and the time of human consciousness interact. This alone encourages us to believe that the metaphysicians of librarianship are wrong in believing that one can be devoted to form in our discipline without reference to content.[21]

Further refutation of the demarcation of structure from substance arrives with the consideration of mind. Of the discoverers of mind, Immanuel Kant (1724-1804) is perhaps the most intriguing. His model of the mind is contained in Critique of Pure Reason, a difficult book which appeared in 1781. Before the heliocentric theory of Copernicus, it was believed that man was at the center of the universe. After Copernicus, it was recognized that man resided at

the periphery thereof. Kant sought to retrieve man from the hinterlands and to put him back at the heart of things. He suggested that the laws of nature reflect the structure of the human mind. Unlike Giambatista Vico, who held that natural laws mirrored the structure of the mind of God and that only the structure of human culture was isomorphic with the structure of mind, Kant assigned to the mind the constitution of everything. The nature of the mind was of overwhelming interest for him because it was mind that secured the rest of the universe.

The mind gave form to the world of experience, according to Kant, by imposing upon it a set of 12 categories or templates, ranging from unity and plurality to causality and reciprocity with necessity and contingency somewhere in between. Each of the categories operated within a cognitive framework dominated by time and space, for Kant, the two master categories. He called the categories transcendental, not because they were in any sense beyond the world, but because they existed prior to, and made possible, our experience. As instruments of understanding, he thought the categories were beyond adulteration by matter. At the same time, it was the categories, with their definite configurations, which demolished the virginity, or purity, of reason. The rational mind simply could not exist unmolested by the imperatives of those categories.[22] This anatomy of mind, much like Noam Chomsky's argument for the innateness of language or the mental structuralism of anthropology's Claude Lévi-Strauss, should have extraordinary appeal to the metaphysically-inclined theoreticians of librarianship. Increasingly, however, it is being demonstrated that Kant's categories have a material infrastructure and that what he took to be pristine form has in reality an underlying substance.

The Materialization of Mind

In a series of fascinating essays, Gunther S. Stent, a molecular biologist at the University of California in Berkeley, has postulated a physiological infrastructure for Kant's categories. He begins his work by asking a question: Why is it that the categories fit the world so very well? His answer, and it should not surprise us coming from a life scientist, is roughly as follows: The categories fit the world nicely because they are not really transcendent, not really present prior to our encounter with the world. The contours of his response are heavily shaped by the notion of ontogeny recapitulating phylogeny. This biological concept asserts that the development of the individual organism repeats the evolutionary history of the class to which that organism belongs. It is an idea used by the late genetic epistemologist, Jean Piaget, to read back onto the cognitive evolution of man the stages through which infants, children, adolescents, and young adults pass as they construct different outlooks on the world via the interaction of genetic potential and the triggering or evocative power of the environment.

An author should ordinarily apologize for the insertion into an essay of an obscenely long quotation. But the complexity of Stent's thought means that he must speak for himself:

> ...it does seem very strange that if, as Kant alleges, we bring such concepts as time, space, and causality to sensation a priori, these transcendental concepts happen to fit our world so well. Considering all the ill-conceived notions that we might have had about the world prior to experience, it seems nothing short of miraculous that our innate concepts just happen to be those that fill the bill. Here the positivist view that all knowledge is derived from experience a posteriori seems much more reasonable. It turns out, however, that...the

> positivist argument that knowledge about the world can enter our mind only through experience is valid if we consider only the ontogenetic development of man, from fertilized egg to adult. But once we take into account the phylogenetic development of the human brain through evolutionary history, it becomes clear that individuals can also know something of the world innately, prior to and independent of their own experience....The a priori concepts of time, space, and causality happen to suit the world because the hereditary determinants of our highest mental functions were selected for their evolutionary fitness (Bergen's Comment: The categories of time, space, and causality contribute so heavily to human survival - one can easily walk off the edge of a cliff and perish without a concept of space - so strongly to the organic ripeness demanded for propagation that they have a powerful evolutionary advantage over less facilitative categories.)....The importance of these Darwinian considerations transcends a mere biological underpinning of the Kantian epistemology. For the evolutionary origin of the brain explains not only why our innate concepts match the world but also why these concepts no longer work so well when we attempt to fathom the world in its deepest scientific aspects.[23]

In effect, the categories are the issue of man's early interaction with the environment. Historically at least, the categories are a product of our confrontation with the world. The neurological correlates of the categories are the evolutionary product of a universe of human, at least terrestial, scale. Because the categories do operate upon the world and possess an operational, if not historical, priority, they contend rather poorly with distances as great as 15 billiom light yesrs or entities as small as 10^{-13} centimeters or the mysteries of the quantum for these are, respectively, a macrocosmos, a microcosmos, and a puzzlement beyond all human or earthly metaphors. To go a step further, and this is not difficult since both Piaget and Lawrence Kohlberg have linked the capacity for complex moral reasoning with cognitive maturation, we may say, with Stent, that our structures of moral reason, as well as our epistemological categories, are biological phenomena.[24] Slowly, but surely, the materialism of the biologist invades the idealism of the eighteenth-

century discoverer of mind.

The materialization of mind need not, of course, follow the categorical paradigm of Kant. Leon Cooper, for example, believes that the anatomy of our mental apparutus is "relatively unbiased" in its interaction with "some of the most basic ordering of our environment" and that our "biological machinery has evolved in such a way as...to be ready for anything," the constraints on perception being mainly those imposed by culture.[25] The point is that the successful materialization of mind damages that distinction between structure and substance upon which metaphysical theories of librarianship depend. What credibility the bifurcation of form and content may retain is now threatened by the attempt of Karl Pribram, a neuroscientist, to eliminate René Descartes' old distinction between mind and body or the mental and the material, the final erasure of which will make it troublingly difficult to hold that form may be separated from matter and that it is form alone which is the proper object of a theory of librarianship.

For Pribram, as the mind is materialized, the world of matter is de-materialized. He is determined to demonstrate the permeability, the tennis-net quality, of the line separating the mental from the material. Apropos to an essay on the theory of librarianship, he wonders whether information is material or mental:

> ...when forces are postulated to exist between material bodies the forces still can be conceptualized as 'material' even though they themselves are not constituted of matter. When matter and energy are related by the equation $E = mc^2$, energy is shown to be 'material' (and neural excitation, the brain's 'energy,' falls readily under this rubric). But energy is measured by the amount of work that can be accomplished by using it and the efficiency of its use depends on its organization as measured by

> its entropy. The invention of the vacuum tube and subsequent devices has shown that minute amounts of energy can control large expenditures and that these minute organizations provide 'information,' that is, they inform and organize energy. Measures of information and entropy thus were seen as related. Computers were constructed to process information and programs were written to organize the operations of computers. Is the information contained in a program 'material' or 'mental'? If it is either, what then of the information in a book?....Clearly we have come to the limit of usefulness of a distinction between the material and the mental.[26]

In everyday experience, the materiality of matter is indisputably dominant. In cosmological physics and in sub-atomic physics, the physics of the very large and the physics of the very small, matter and energy are more understandably interchangeable. Tiny amounts of energy in computers or brains can order vast systems of energy or matter. We call these tiny amounts of energy information and it would seem that such directive or programmatic information could be viewed as either material or mental in much the same way that light can be understood as either wave-like or particulate in form. To delight in the notion of light as "wavicle" is to entertain the possibility of information as "matment." Whatever our conclusions may be, and mine are to view information as more material than mental, Pribram has alerted us to the futility of holding form apart from matter, and matter from form, in macroscopic and microscopic worlds far removed from the mundane universe of those Old Greeks who elaborated that distinction.

Mathematics and the Abandonment of the Form-Matter Distinction

It might be objected, at this point, that the symbolic entities of mathematics clearly presuppose a distinction between form and matter. Some will insist that the structures of mathematics exist

quite independently of the materialized human mind and that even if all human beings disappeared from the universe the universe would continue to have a mathematical form. There is, however, another, very different, view which asserts that such mathematical things as pi (3.1416) is as much a human construction as is pi, the sixteenth letter of the Greek alphabet. Like music, games, art, and even science, mathematics is far from timeless and independent. It is, in fact, thoroughly contingent and its permanence and extra-individual acceptance are merely a function of cultural consensus. There are those, of course, who cavil with the idea of a culture-dependent mathematics, but they often tread shaky ground of their own.

As we shall observe more fully later in this essay, a disciple of Karl Popper's concept of the autonomy of knowledge vis-a-vis mind and matter might argue that there are numbers, say a number composed of $10^{1,000,000,000,000,000,000}$ digits, which exist without ever having been inscribed, in their full extension and amplitude, in either a mind or an extra-somatic record. A response to this by the advocate of mathematics as a part of culture might be that the structure of sequential numbering is a human invention, collectively affirmed, and that any number, however large, that might be generated within that structure exists implicitly within the culturally endorsed structure itself. It might also be objected that if mathematics is a product of culture different cultures should produce different mathematics when, in fact, they do not. A possible answer to this objection is that the possession of a common mathematics by many cultures is a result of one culture's learning from another, the consequence of outward cultural diffusion from a single, mathematically inventive culture rather than of the independent invention of math-

ematics within many cultures. Finally, some may find it difficult to believe that a culturally-derived mathematics could be as congruent with the universe, as strikingly predictive and explanatory, as it seems to be. The answer to this wonderment is much less clear. We could suppose that the continuity of man with the rest of nature accounts for it. Or we could speculate that mathematics is an outgrowth of the brain's evolution, a la Stent's materialization of the Kantian categories. In this final instance, what would remain to be explained is the startling rapprochement between mathematics and those very large and very small sectors of reality which are alien to day-to-day existence.[27]

What, the reader might be prompted to ask, are the implications for the theory of librarianship of this rather abstruse discussion of mathematics as embedded in culture? If mathemativs does not have "the inhuman quality of starlight, brilliant and sharp, but cold,"[28] to borrow Morris Kline's vivid characterization, if it is, on the contrary, a warm, colorful, decidedly anti-Platonic instrument devised by human beings, given the appropriate cultural imprimatur, and imposed on the universe by fiat, ... then the last barrier dividing form from matter has been breached. As cultural creation, mathematics is no longer a pristine, aempirical structure, but is the issue of the material brain and the material culture. A mathematics which is human and social cannot exist in isolation from all that is physical. Indeed, mathematics invites reification. It is completely comfortable with matter because of its materialist origin.[29]

In its elegance and symmetry, mathematics is sometimes compared with music and art. Curiously, it is almost never argued that art and music live a life apart from mind. In fact, they are judged the

most human of creations and quite incapable of flight from man. It should astonish no one that Douglas R. Hofstadter can compare the recursive, self-referential, and endlessly regressive character of post-Gödelian mathematics with the music of Johann Sebastian Bach which, after climbing on the scale, inevitably loops back to its original key and with the graphic art M. C. Escher, which is populated with looping staircases and waterfalls.[30] The relationship between mathematics, music, and art would appear to go beyond mere analogy. My guess is that their kinship is forged in the human mind. With Hofstadter insisting that mind's materialization will ultimately be replicated in a computer-based artificial intelligence and with this writer's argument for the materialization of mathematics, there seems little reason to believe that a metaphysics intent on the distinction between form and matter can hope to support a viable theory of librarianship.

Non-Metaphysical Directions for the Theory of Librarianship

Reservations having been strongly expressed about metaphysical theory of librarianship, this essay must now suggest what kinds of theory might replace the metaphysical. The obvious candidates are theories which are never at a very great distance from matter. A superb example of the kind of theory we should strive to develop in librarianship may be found in "Tropology, Discourse, and the Modes of Human Consciousness," a brilliant essay by Hayden White. He maintains that structures of consciousness, one of which is the trope or figure of speech, encode or evoke experience. White's four tropes are metaphor, where the objects in a field of experience are seen to resemble one another; metonymy, where a field of objects is

analyzed into its constituent parts; synechdoche, where there is an effort to identify the relations among objects constituting an integrated field; and irony, where the contrasts and oppositions within that apparently unified field are unearthed.

Each of the tropes construes what is true or real in a different way and is differentially directive of the apparatus of perception. Where one is captive of metonymy, for instance, one will be sensitive to the fragment. Where one is in the embrace of synechdoche, one will be searching for unity. Fine, you might retort, but just how does White rescue his scheme from the predations of metaphysics? In a tour de force, he links the four tropes to their underlying modes of cognition as identified in the developmental studies of Jean Piaget. The connections between the tropes and their supportive cognitive stages are as follows: metaphor and the sensorimotor, metonymy and the representational, synechdoche and the operational, and irony and the logico-rational. This arrangement grounds the tropes securely in matter. For each of Piaget's stages of cognition, there is a vast amount of cross-cultural empirical evidence.

Not entirely content with the Piagetian connection, White goes on to relate the tropes to the empirically-informed thought of Hegel, Marx, Nietzsche, Freud, and Emile Durkheim, thus imparting to each trope the nature of a global matrix hospitable to a great variety of empirical content much as a flask can accommodate a multiplicity of wines.[31] Unlike the pure structures of formalism, his tropes never lose sight of matter, never back away from the flux of the world upon which Heraclitus insisted 2500 years ago.

Another approach, whose thrust the theorists of librarianship could emulate, is the epistemic history of Michel Foucault. In Madness and Civilization: A History of Insanity in the Age of Reason, he

contrasts the world view of the Middle Ages with that of the Enlightenment by asking how madness is defined in each epoch. During the former, the empirical content of madness has Gnostic dimensions and literally rings of the mad as those possessed of unique insight into the Divine. During the latter, when there is a premium on reason rather than revelation, madness is infused with an entirely different substance. The bottle of madness is filled with the wine of irrationality and the mad, now considered deviant, are isolated from those dedicated to reason.[32] An epistemological shift in the relationship between the word and the thing to which it refers results in the pouring of a completely new liquid into the vial of madness. Unlike the atemporal structuralism of his fellow Parisian, Lévi-Strauss, Foucault's examination of human consciousness never extricates itself from the concrete events of history. Virtually alone among the structuralists, the late Lucien Goldmann and Louis Althusser, a Marxist structuralist, are the only exceptions who come readily to mind, Foucault does not ascend into a heaven of pure Platonic forms. Therefore, he offers an excellent example to the theorists of librarianship.

Yet another attempt to make theory whole, to recognize its material as well as its formative aspects, is the thematic approach to natural science elucidated by Gerald Holton. Insuring that they remain empirically clothed, he investigates such themata as atomism and continuum, evolution and devolution, constancy and change, complexity and simplicity, and reductionism and holism while concurrently assessing their impact on the history of science. Thus treated, the themata never wholly transcend the empirical inquiry which they guide, never escape the warp and woof of things for the ethereal realm of meta-

physics. Holton insists, with some force, on the immanence of the themata:

> While the thematic analysis may be limited by the requirement of some firsthand experience with the scientific material...the rewards of doing more specific work on real cases seem to me far more evident than those to be had from engaging in comparisons among different historiographic schools, or in psychological or rational 'reconstructions' ....[33]

He is inclined, therefore, to consider very concretely the work of Einstein, of whom he is one of the world's most prominent students, or of an Isaac Newton or a Johannes Kepler in order to derive, by induction, the themata which govern their attempts to understand the physical universe.

Once he has identified the most powerful themata, Holton is in a position to show very precisely how they direct the work of science. Because they never escape the constraints of the real world for the speculative freedom of metaphysics, thematic studies would appear to offer a solid foundation for the theory of librarianship. Indeed, my teaching of library history and of comparative librarianship has convinced me that, historically and comparatively, the library has emphasized either service to the individual or service to the community, has offered either a plethora of messages among which the individual might rummage or a singular message upon which whole communities are compelled to meditate. In this instance, the typically antithetical themata are the individual and the community. In the library's relationship to society, it can be discerned that library services are distributed either by governmental choice or by the workings of the marketplace and that, throughout library history, here and abroad, the themata of decision and exchange occupy a privileged position.

Although such is yet to emerge in the theory of librarianship, the studies of White, Foucault, and Holton intimate that theoretics without empirics are undressed, that theory somehow actively pursues material vestments lest it feel incomplete. This is perhaps a pardonable anthropomorphism. In The Search for Solutions, Horace Freeland Judson provides his readers with a fascinating reason for theory's quest for matter. Inspired by Mendeleev's nineteenth-century periodic table of the elements, a table which has intrigued, and sometimes infuriated, generations of chemistry students, he suggests that the laws of the universe have a patterned, rhythmic, or cyclical quality. Judson attempts to show this by resort to examples ranging from the rhythmic movements of snakes to the helical patterns of genetic material. His notion that we identify rhythms in nature is rooted in the belief that the biological rhythms of our bodies impart a patterned or rhythmic bias to our perception. Since those bodily rhythms are material in nature, any theory of the universe which is oriented by pattern or rhythm locates its empirical presuppositions in the body itself. Said differently, biology invariably retrieves a cognition in flight. While Judson's association of the rhythms of the body with a perceptual rhythm assumes a rather facile portage of the long Platonic isthmus separating the head from the body, it does offer further support to the idea of a materialized mind and, ipso facto, to the idea that there can be no happy divorce of form and matter.[34]

De-Mystifying the "Certainty" of Metaphysical Theory

By its nature, empiricized theory destroys the Ancient Greek distinction between episteme or certain truth and doxa or opinion. When theories and laws and mathematics are no longer seen as occupying

a space which is independent of the mind, when they are viewed as wholly contingent, all certainties dissolve and everything, in a kind of wholesale triumph of pluralism, becomes opinion. Isaiah Berlin's famous hedgehog, who emerged from the Scientific Revolution and the Enlightenment with the conviction that there was one big, incorrigible, abstract idea which might envelop everything in the universe, must yield, on this view, to his own favorite, the fox, whose fondness for the absence of privilege implicit in the presence of many different ideas is equally well known.[35] The larger the idea, the more encompassing it is, the heavier its inclination to monism, the more intense should be our suspicion.

For some years now, the gifted young paleobiologist, Stephen Gould, has been telling us that there is precious little evidence to suggest that biological change is slow or evolutionary and that our interpretation of what evidence does exist has been prejudiced by that same Victorian preference for the gradual which enchanted Darwin himself. But one must ask of Gould whether there is any firmer evidence for his theory of punctuated equilibrium, for long periods of biological stasis ruptured by brief, revolutionary junctures at which new species suddenly appear. Without the directive intervention of ideology, there might not be. Given his Marxist upbringing, a fact he readily admits, Gould may share with the Victorians as strong a proclivity for abrupt change, and impose that on the evidence, as their dedication to gradual change, likewise read onto the evidence. A belief that knowledge is a human fabrication leaves one very skeptical of claims to truth, leaves one, indeed, receptive to the hermeneutics of suspicion practiced by Paul Ricoeur in Freud and Philosophy: An Essay on Interpretation and by John Murray Cuddihy in The Ordeal

of Civility: Freud, Marx, Lévi-Strauss and the Jewish Struggle with Modernity.

For over a century, the great demystifiers in the West have had in common a strong anti-metaphysical bias. They have greeted all theories, laws, ideas, concepts, and values with a single question: From where does it come? This question betrays considerable suspicion and Marx, Nietzsche, and Freud, the most prominent exercisers of what has come to be known as the hermeneutics of suspicion, or suspicious interpretation, seek to expose those ideas which originate in some angelic realm beyond the earth rather than in the concrete, material enclave in which we must all live. Their essential purpose is to repatriate consciousness, to explore its roots in the economy, in the structure of power, and in the physical brain. Consequently, their thinking is profoundly instructive for those who would drain the metaphysics from contemporary theory of librarianship.

The intelligentsia of Old Greece, contends Ricoeur, sought to replace myth with philosophy and, in the process, fostered an illusion which has crippled our thinking ever since. The illusion is that philosophy, obsessed with abstract universals, has somehow transcended the materiality of myth, which is equally obsessed with concrete particulars. It has been thought that Plato, in some ingenious way, moved irrevocably beyond the raw physicality of Homer. For Ricoeur, therefore, a purpose of hermeneutics is to demolish this illusion. Of his "school of suspicion," Marx, Nietzsche, and Freud, he says the following:

> For Marx, Nietzsche, and Freud, the fundamental category of consciousness is the relation hidden-shown or, if you prefer, simulated-manifested....What all three attempted, in differing ways, was to make their 'conscious' methods

> of deciphering conincide with the 'unconscious' work of ciphering which they attributed to the will to power, to social being, to the unconscious psychism. Guile will be met by double guile.
>
> Thus the distinguishing characteristic of Marx, Freud, and Nietzsche is the general hypothesis concerning both the process of false consciousness and the method of deciphering. The two go together, since the man of suspicion carries out in reverse the work of falsification of the man of guile....Fundamentally, the Genealogy of Morals in Nietzsche's sense, the theory of ideologies in the Marxist sense, and the theory of ideals and illusions in Freud's sense represent three convergent procedures of demystification....All three begin with suspicion concerning the illusions of consciousness, and then proceed to employ the stratagem of deciphering; all three, however, far from being detractors of 'consciousness,' aim at extending it.[36]

If we understand, with Marx, that ideas percolate upward from the muck rsther than descend from heaven on a golden chain; with Nietzsche, that the definitions of good and evil are not eternally inscribed in the souls of men, but are formulated by a power elite; and, with Freud, that the mind is ultimately shaped by an organically-founded unconscious rather than by consciousness, then we have indeed expanded our thinking by assigning to our ideas new sites of emanation. Furthermore, we have insisted that what is so often taken as natural and eternal is, in fact, cultural and historical. With the late Roland Barthes, we can feel "impatience at the sight of the 'naturalness'" with which ideas and values are constantly endowed and want "to track down, in the decorative display of what goes without saying, the ideological abuse which...is hidden there."[37] And, of course, to unmask this "ideological abuse" is to question the indubitability of theories, including those which the theorists of librarianship currently employ to infatuate us.

The three suspicious ones, Marx, Nietzsche, and Freud, decode

consciousness by demonstrating that the encodation of consciousness is a function of the material situation in which individuals find themselves. To base consciousness on matter rather than on some heavenly ideal is, it seems to me, to begin to address reality as opposed to appearances. We, in the theory of librarianship, would do well to heed the counsel of demystifying hermeneutics. Our theory begs for materialization and, once materialized, we shall more clearly see it as a product of power and of the times rather than as the timeless issue of nature.[38]

What Nietzsche said in The Genealogy of Morals, nearly a century ago, suggests the degree to which the theoretician of librarianship should be sensitive to the impact of culture. He is here inquiring as to the origin of our notions of the good and the bad:

> I discovered that...these terms lead us back to the same conceptual transformation. The basic concept is always noble in the hierarchical, class sense, and from this has developed, by historical necessity, the concept good embracing nobility of mind, spiritual distinction. This development is strictly parallel to that other which eventually converted the notions of common, plebian, base into the notion bad. Here we have an important clue to the actual geneaology of morals; that it has not been hit upon earlier is due to the retarding influence which democratic prejudice has had upon all investigations of origins. This holds equally true with regard to the seemingly quite objective areas of natural science....[39]

Our concern with the origins of theories should surely be as deep as Nietzsche's with the origins of values. To discern those origins would require us, in the case of the theory of librarianship, to break away from the metaphysical box in which we are now held much as the great Jewish intellectuals have managed, by virtue of their historical isolation, to remove themselves from the idea stream of Western civilization. This alienation of the Jewish intelligentsia has promoted an extraordinary conceptual inventiveness, which itself is an

outcome of being able to see, more clearly than those who are captivated by them, the sources of our ideas.

Beyond the Platonic Captivity

To a considerable degree, the theoreticians must be the outsiders of scholarship in librarianship. Only by a process of alienation from the conventional theoretical wisdom in our field can the prospective theoretician see what is wrong and attempt to correct it. The position of one who would re-orient theory in librarianship is similar to that of the Jewish intellectuals, so brilliantly portrayed by George Steiner, and one can only wish him or her comparable success:

> Far from resenting his guest-status in the gentile communities or, more accurately, armed camps of Diaspora, the Jew ought to welcome it. What he may have inherited of nomadic centuries, the remarkable antennae he has grown for linguistic adaptations, his skills as an agent de change - of currencies, of styles, of life, of ideas - his fascinating ability to live in time...these equip the Jew to exist and flourish....I have learnt to feel at home wherever I can do my job and count the stars. Because you would not let me take root in your sense, in old earth...excluded me from your jargon I have invented new grammars: the transcendental numbers of Cantor, the twelve-tone rows of Schoenberg, the analytics of Wittgenstein. Yes, I am a wanderer, a Luftmensch: 'unto the elements be free'. But I have made of my harrying, and of the ironies, stress, sophistication, such harrying provokes in the Jewish sensibility, a creative impulse so strong that it has recast much of the politics, art and intellectual constructs of the age. I am, whatever the modesty of my personal situation, a fellow-citizen of Trotsky and of Freud; a Landsmann of Kafka and Roman Jakobson; I need the same visa as Levi-Strauss.[40]

If, in some way, the theoreticians who are preparing to take the field can move out from under the fathers of theory, they will, in short order, liberate theory from the house of metaphysics. To do this, they must isolate themselves as the great Jewish thinkers have been isolated. Abandoning that house, the new theoreticians will look back into it,

recognize the shortcomings of the metaphysical approach, and proceed to erect a theory of librarianship on more material grounds.

The recasting of the theory of librarianship may well test professional civility, perhaps in a way reminiscent of the manner in which Marx, Freud, and now Lévi-Strauss challenged, and later subverted, that complex structure of social relations which characterized Central and Western Europe and to which the Jews had great difficulty assimilatin. Efforts to undermine the idealist current in the theory of librarianship will no doubt elicit a negative reaction from the metaphysicians, on the order, perhaps, of that evoked by the Jewish challenge to European civility. Dedicating himself to what is best described as the sociology of consciousness, John Murray Cuddihy asserts that their difficulty in assimilating to the existing social order made Jewish thinkers implacably hostile to those arrangements. Playing intellectual archaeologists, Marx found greed and the thirst for profit underneath the most outwardly civil of commercial relations; Freud discovered, under an astonishingly thin veneer of civilization, some decidedly anti-social impulses; and Lévi-Strauss, addicted to what is binary, would lionize the savage mind to the detriment of the "civilized" mind of modern Western man.

By his own account, Cuddihy's study "examines the 'hidden transformations' of the everyday life problems of assimilating Jewry - the Jewish Emancipation problematic - into the very thought structures of Jewry's intellectual giants: Freud, Marx, and Lévi-Strauss."[41] In many respects, the odyssey of the Jewish intellectual is one which those who would transform the theory of librarianship might well emulate. Those who cannot accept a Platonic theory of librarianship are, like the Jewish thinkers, outsiders. They are under some pressure

to arrive at an alternative world view. A materialist theory of librarianship subverts a metaphysical theory in much the same way as the reading of forces below the surface of society by the Jewish intelligentsia has placed in question the legitimacy of Western social structure.

The remainder of this essay will address the form, with some reference to the substance implied by that form, of a new theory of librarianship. A more comprehensive elaboration of what is implicit in that form, of what it connotes by way of content, is a project well beyond the modest scope of this effort. For the moment, it is sufficiently challenging to outline the form.

The Form of a New Theory of Librarianship

We have known for a very long time that in its relation to the evidence of the senses, a theory is discouragingly asymmetrical. Properly formulated, a theory can never be confirmed by the evidence, but it can, with great difficulty, be refuted or falsified. To oversimplify radically and to ignore the structure of meaning in which the proposition is enmeshed, if I assert that in all libraries where there are public service and technical service divisions there will be tension between them, a single instance of total tranquility will be destructive of that proposition. There could, of course, be some slipperiness here: We might argue over the definition of a library, about what constitutes public service and technical service divisions, and over what is meant by tension and, by implication, the absence thereof. On balance, however, if the terms of a theoretical proposition have been precisely defined, if the web of meaning in which the proposition is situated has been clearly articulated, and if the ob-

servational consequences of the terms have been adequately delimited, it is possible to indicate the kind of evidence that would overthrow the proposition. There will always be some philosophical dispute about what really constitutes disconfirming evidence and about how a theoretical proposition must be stated so as to be open to unambiguous falsification. And some attention will be paid to those issues down the line. At this time and for our rather simple-minded purposes, perhaps we could assume that theoretical propositions can be refuted.

What destroys perfect bilateralism in the relationship between a theoretical proposition and its evidence is that the latter can never indisputably confirm the former. A proposition can gain empirical support, with the passage of time, but we can never be entirely sure of it. The observation of 1000 libraries with public service and technical service divisions may reveal in each the presence of tension. Those observations offer no logical guarantee, unfortunately, that tension will be present in the 1001st library visited. Induction, the attempt to marshall individual cases on behalf of a general proposition, has been in trouble since its critique by David Hume in the eighteenth century. As an effort to construct a bridge between the past and the future by insisting that the future will invariably, or probabilistically, resemble the past, induction is a failure. However many times one has discovered public service-technical service tension in the past, there is always the chance that a harmonious library will turn up at some point in the future.

Efforts to vindicate induction have usually centered on its probabilistic form, but they have been no more successful at saving induction than have efforts to preserve it in determinate form. If one asserts,

for example, that there will be tension in seven cases out of 10, one must, as a practical matter, indicate how many cases are to be considered. Let us say, quite arbitrarily, that the number of cases to be considered is 100. If there is tension in only 65 of the 100 cases, the theoretical proposition would appear to be refuted. If tension is discovered in 70 of the 100 cases, the proposition might, in some uninformed quarters, be taken to be confirmed. Logically, however, there is no acceptable way of limiting the field of observation to a specific universe of cases. To limit the number of cases referred to by one's proposition is arbitrary. To say that only so many cases are possible overlooks the chance of additions. Therefore, the probabilistic form of induction has no greater logical validity, however helpful it may seem in practice, than its determined counterpart.

Again, if we avoid the nuances and technical objections, we can assert that theoretical propositions in librarianship can, with great effort, be demolished by resort to the evidence, but never incorrigibly certified. Our faith in a proposition can grow, as more support for it arrives on the scene, but that faith can never be complete. Thus, Karl Popper's view of the evolutionary ambience in which theoretical propositions subsist is most germane: Just as only the fittest organisms are selected for survival by nature and/or culture, so only the fittest of theoretical propositions survive, for whatever period, the difficult test of refutation. If there is a difference between organic evolution and the evolution of theory, it is that heretofore nature has been propelled by the random mutation of life forms, within certain morphological constraints, and by the relationship between such mutations and the nature of the environment. Knowledge, by contrast, has refined

itself by a more purposeful and systematic process of trial and error, conjecture and refutation, in which more comprehensive and conceptually economical propositions replace, at their refutation, those of inferior comprehensiveness and economy.

In the early 1980s, Popper's evolutionary metaphor has become even more apt as genetic engineering imparts human purpose to the mutation of life forms and the environment itself becomes increasingly a product of man's deliberate fabrications, the output of human minds and bodies rather than of an occasionally capricious nature. More than ever before, biological activity is governed by human design, just as the advance of knowledge is guided by human purpose. We can say, in summary, that, with much hard work, theoretical propositions can be refuted, but not decisively confirmed. That propositions can be falsified, but not validated, suggests that their relationship to the world of matter is asymmetrical. Popper himself would exclude from the domain of theoretical propositions, would place on the far side of what he calls his line of demarcation, those statements which he regards as metaphysical or poetic. The ambiguity which makes such statements metaphysical or poetic renders them, in his view, immune from falsification. Popper's strong animus toward Marx and Freud prompts him to include their theoretical propositions on the side of metaphysics.[42] Invoking the late Imre Lakatos, as he shall do later in the essay, this writer cannot agree.

The Struggle To Falsify Theory

Since the theoretical propositions of librarianship cannot, in any ultimate sense, be confirmed, our objective should be to seek their refutation. But both psychological and mechanical barriers confront

attempts at refutation. The psychology of theoretical propositions is that they are self-fulfilling. Those who adhere to them are encouraged to find evidence which will support them. Put baldly, theoreticians are inclined to find what they are looking for. And the intensity of that inclination to find what they are looking for is directly proportional to the tenaciousness with which they cling to the proposition. For instance, if one postulates that relations between public service and technical service divisions in libraries are invariably strained, and one has any kind of psychic investment in that proposition, one will be tempted to be more sensitive to evidence of tension than to evidence of harmony. It is virtually built into the psychology by which theoretical propositions are tested that such propositions will direct perception.

The sheer effort that goes into the formulation of a theoretical proposition, or into the development of a commitment thereto, is bound to heighten the inquirer's sensitivity to supportive evidence and to dull receptivity to invalidating evidence. Since final confirmation of a theoretical proposition is untenable, the self-validating psychology inherent in them is, from a philosophical standpoint, self-defeating. The devotee of a theoretical proposition is psychologically inhibited from unearthing evidence that might falsify it. This is a critical defect because the real purpose of testing a theory should be to seek its falsification. Because confirmation is ruled out, the real measure of a theoretician's success is the invalidation of those theories that are so dear. Refutation is at the core of determining whether a theoretical proposition, be it predictive, like our example, or explanatory, or both, is the only proposition that can predict and/or explain the material evidence which falls within its scope.[43]

To our rescue, from the University of California at Berkeley and the Zurich Polytechnic, between which he splits his time, comes Paul K. Feyerabend, another of Vienna's contributions to the community of philosophers and the author of the intriguing Against Method, method in this case referring to the method of science. If theoretical propositions are indeed self-fulfilling, suggests Feyerabend, why not give them a fair test, on the side of refutation, by employing their counter propositions. To test for tension between public service and technical service divisions, one must postulate that their relationship is devoid of tension. If one can mobilize sufficient emotion behind this counter proposition, its self-validating character should encourage one to scan the empirical horizon for any evidence of the harmony that is destructive of the proposition concerning inter-divisional tension. Contravening evidence is precious because when a theoretical proposition is finally refuted, one is free to advance what one hopes will be a better proposition, one which will take in more empirical ground, involve fewer variables, and require greater ingenuity to invalidate.

Feyerabend calls this approach "counterinduction" and he urges theoreticians to adopt propositions which reverse or contradict supposedly well-established theses. There is a psychological bent to this method. It does look to discovery, but Feyerabend's main point is more philosophical. He wishes to establish himself as a relativist, yes, even an anarchist, when it comes to claims that certain kinds of knowledge are privileged or superior. He holds, with the French mathematician, Henri Poincaré, that a variety of very different theoretical propositions can explain the same body of evidence and that, moreover, these diverse propositions need not be compatible with one another or even share a common metric.

Feyerabend enjoys the proliferation of structures of explanation and/or prediction every bit as much as John Stuart Mill appreciated the proliferation of ideas and values.[44] He contends, furthermore, that there is no strictly rational way to choose among theoretical propositions which purport to embrace the same phenomena. This is the case because propositions inevitably contaminate observation, always work their theoretical assumptions into the facts. One need not go quite this far in order to appropriate the idea of counterinduction. It is enough to insist that a decent test of a proposition requires the use of its counter-proposition. Since one's purpose should always be falsification, a counter-proposition serves a heuristic function. It helps us ferret out data which would refute either the proposition or one of the auxiliary propositions upon which the proposition depends. In order to falsify a theory concerning the classification of library materials, for example, one may need only to disconfirm a theoretical proposition concerning the logic undergirding that theory of classification. But, to sum up: A theoretical proposition in librarianship is one which, however long and arduous the task, can be falsified. And falsification is always worth its pursuit, because it is only with successful efforts at falsification that the theory of librarianship can hope to progress.

If this partial outline of the form for a theory of librarianship has any implications at all for library practice, it is that one purpose of the library should be to facilitate the refutation of theoretical propositions. This is a revolutionary shift since libraries have historically served as a source of evidence supportive of the theoretical propositions of their clients. As a result, the transition to a system of access to knowledge oriented to falsification rather than confirmation must be gradual. The psychology and history of the situation

dictate that the bibliographic apparatus provide for the retrieval of both the evidence supporting a proposition and, under its clearly delineated counter-proposition, that which defeats it. For search purposes, the proposition and its inverse could be juxtaposed and accompanied by citations to, and perhaps abstracts of, the books, articles, reports, and the like whose contents warrant either the proposition or the counter-proposition. In the end, it will be up to the reader to assess the reliability of the evidence, since only solid evidence supporting a counter-proposition can possibly invalidate a proposition.[45]

My objective here, however, is to examine what a theory of librarianship might be like rather than to examine the implications for practice of the form of that theory. Although is is very important, one cannot afford to be naive about falsification. It is an extremely complex, and often oblique, process. The psychological impediments which must be overcome on the path to a dedication to falsification are enormous. P. B. Medawar has recently reminded us that "the intensity of the conviction that a hypothesis is true has no bearing on whether it is true or not" and that "the importance of the strength of our conviction is only to provide a proportionately strong incentive to find out if the hypothesis will stand up to critical evaluation."[46] If theoretical propositions were not held with great fervor, counter-induction might not be needed. Unhappily, enthusiasm for a proposition diminishes doubt about its truth. That is why a theory of librarianship must respect the criterion of falsification. At the same time, it is important that the theoretician recognize that not all propositions can be refuted in a straight forward manner.

The Severe Difficulty of Falsification

Consider the following theoretical proposition: Librarians employing the Dewey Decimal Classification Classification invariably classify books more rapidly than librarians using the Library of Congress Classification. We can perhaps agree on what a library is, on what the DDC and the LCC are, on what it means to classify a book, and on what, at least on the surface, more rapidly might mean. But consensus on such matters may not be quite enough. Pierre Duhem, three-quarters of a century ago, and W. V. Quine, over the last three decades, have insisted, to quote the latter, that "our statements about the external world face the tribunal of sense experience not individually but only as a corporate body."[47] This is a little obscure and it merits further explanation. No one has done this better than Imre Lakatos:

> According to the 'Duhem-Quine thesis', given sufficient imagination, any theory (whether consisting of one proposition or a finite conjunction of many) can be permanently saved from 'refutation' by some suitable adjustment in the background knowledge in which it is embedded. As Quine put it: 'Any statement can be held true come what may, if we make drastic enough adjustments elsewhere in the system....Conversely, by the same token, no statement is immune to revision.'[48]

Put in slightly different form, a theoretical proposition can have its own ecology, an ecology which is both historical and philosophical in the sense that it contains other theories, hypotheses, and laws upon which it depends for its meaning. The falsification of any of those background propositions can jeopardize the initial theoretical proposition.

Let us examine this intervention in a bit more detail. Aristotelian theory held that the heavenly bodies were balls whose surfaces were perfectly smooth. Two millenia latter, Galileo Galilei looked through his telescope and reported that there were mountains on the moon, not

to mention spots on the sun. Galileo's theory of the cosmos accommodated as a consequence, the idea that the surfaces of celestial bodies could have relief. He cited his actual observations of the moon and the sun in support of his theory. In fact, of course, the reliability of his telescopic observations depended crucially upon the optical theory, and its legitimacy, which underlies telescopy itself. Thus, Galileo's observations and his theory of the cosmos were themselves theory-dependent. The refutation of the optical theory supporting telescopy could destroy his cosmological theory. This is what is meant by the assertion that a theoretical proposition may be embedded in a background.

In most cases, a theoretical proposition has its auxiliary theoretical propositions. A satisfactory test of a theory in astronomy could conceivably involve the theory of optics, the theory of radio, or both. If a test of an astronomical theory is negative, it might mean that an auxiliary theoretical proposition is false, that the astronomical theory and its auxiliary proposition are improperly conjoined, or, of course, that the astronomical theory itself is false. Viewed within the Duhem-Quine-Lakatos tradition, the falsification of theoretical propositions is no simple or direct matter. Those who would test a theory of librarianship must keep the complexity of such a project constantly in mind.

Having taken a detour, let us return to our earlier proposition: Librarians employing the Dewey Decimal Classification invariably classify books more rapidly than librarians using the Library of Congress Classification. This proposition is housed in a theoretical framework which includes certain presuppositions about time, not just the notions of more rapidly and less rapidly, but of a time in which

the concept of rapidity itself is lodged. If it is assumed that time moves at a uniform pace, the ideas of faster and slower are readily understood. If, however, one adjusts the background in which the DDC-LCC proposition resides, if one presupposes, for example, that the passage of time is not uniform, then a proposition concerning the speed of classification could be permanently inoculated against refutation. Moreover, the future might reveal the proposition concerning the non-uniformity of time's movement superior to, in terms of the longevity of its resistance to refutation, the proposition that time passes uniformly. It follows that, even where the method of counterinduction is used, not all of the theretical propositions in librarianship will be open to easy, or unambiguous, refutation. The labyrinthine backdrop of the most interesting theoretical propositions makes their refutation a most challenging project.

To review very briefly, we have seen that a theoretical proposition in librarianship should be so formulated as to be open to falsification, that falsification is what we should pursue, and that the quest for falsification poses certain difficulties. At this juncture, it might be well to contemplate what a viable theory of librarianship should not be like, to explore, very specifically, some of the errors into which the idealists have fallen.

What a Theory of Librarianship Should Not Resemble

From the outset, it has been insisted that a theory of librarianship have empirical moorings. Another way of suggesting what this means is the way of indirection, the dramatization of what it does not mean. In two books, Objective Knowledge and Unended Quest, and in two journal articles, "Indeterminism is Not Enough" and "Three Worlds,"[49] Karl

Popper has articulated a tripartite ontology, or theory of being, which, he contends, supports the notion of an "epistemology without a knowing subject." He hypothesizes that there is not just a unicameral world of matter and nothing else, not just a bicameral world of matter and mind and nothing else, but a triune world in which there is matter, mind, and knowledge. The Popperian universe consists of a material or physical world, a world of trees and mountains and ponds; a mental or psychological world, a world of observations, thoughts, and feelings; and, finally, a strange, disembodied world of the abstract products of mind, a place of myth and theory, of story and song, which exists quite apart from its presence in the psyche or in some kind of exosomatic record. Popper would argue, one can be sure, that the first volume of Henry Kissinger's memoirs, White House Years, takes up residence in three distinct worlds: a physical world, in which it may appear in such variant material guises as a library edition, a book club edition, or a paperbound edition; a psychological world, in which it is a collection of thoughts and impressions imbedded in Kissinger's mind and in the minds of his readers; and in an abstract, discrete, ontologically autnomous world, in which it is knowledge existing quite independently of its embodiment in either the mind or in an unambiguously material record situated outside the mind. He calls these worlds, World 1, World 2, and World 3, respectively.

It would be as difficult to demonstrate conclusively the non-existence of World 3 as it would be to demonstrate the reduction of mind and everything else to matter, the goal of the monistic materialist, or to show that there is only matter and a mind which is somehow more than its anatomical components and their relations, the objective of a convinced dualist. My inclination, given the materialist bent so evident

in this essay, is to be very skeptical of Popper's third world, of both its existence and its importance. He has suggested that there are even numbers and odd numbers so outlandishly large that they have not been, perhaps cannot be, embraced by the mind or embodied in a physical record and that such numbers exist, therefore, apart from a knower or any graphic record. In a strict, but ultimately trivial, sense, he may be right. Such numbers may never be found in a mind or in a book or even in a computer, but their existence is clearly implied in the very definitions of even and odd numbers and those definitions, so pregnant with implication and extension and extrapolation, have for thousands of years enjoyed psychological and physical embodiment.

An objective, autonomous, transcendent World 3 located, somehow, beyond the subjective mind and the world of material things violates my idea that matter is always present to theory. For me, the existence of such a world is doubtful and, even if it were proven to exist, its utility would most probably be very marginal. Anthony O'Hear refers to the postulation of an ontologically distinct Third World as "Popper's Platonism" and asserts that everything Popper says about World 3 can be expressed in World 2 terms. To state, as Popper does, that World 3 has a causal effect on World 2 is really no argument for the existence of World 3. Before World 3 can affect World 2, the presence of a World 3 has to be convincingly demonstrated.[50] Popper has not made that demonstration. Conequently, his three-world universe has a troublingly idealist coloration and it does not provide an example which can be easily followed by a theory of librarianship that would free itself from metaphysics.

The Construction of Knowledge in Librarianship

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The theory of librarianship, like the theory of any other subject

discipline, has a singular purpose: the construction of knowledge. Knowledge, it will be recalled, is constructed, not discovered, although there is a dialectical interplay, a dialogue, between theory and fact. The constructive powers of theory make us automatically suspicious of the idea that knowledge can endure apart from our minds and material inscriptions and later impose itself thereon, much as a new experience might engrave itself on a Lockean blank tablet. Because mind is prior to at least the macrocosmic and microcosmic aspects of the physical universe, having had only brief evolutionary contact with them, most of our everyday knowledge is contingent upon mind. If a theory has some success, it may mean only that the a priori structure of the mind has, on this occasion, been congruent with the structure of some portion of the universe with which we can contend using only the metaphors of everyday experience.

The concept of a theory has undergone considerable revision during the past quarter century. In the second edition of his The Structure of Scientific Theories, Frederick Suppé proposes that the Received View of theory died in the late 1950s and was replaced by what he calls the Weltanschuungen View. In the former, the facts dug out by observation are untainted by theory. In the latter, conversely, theory brings the facts into being.[51] My discussion of the appropriate form for a theory of librarianship has been informed by the Weltanschuungen View. The closing sections of this essay will examine the further implications of that view for the theory of librarianship.

Facts Bequeathed by Theory

Because theoretical propositions cannot be confirmed and are sometimes difficult to falsify, one is left with the impression that

our knowledge is on very shaky grounds. Such is unquestionably the case. There are now all kinds of questions about that more epistemological edifice which we inherited from the seventeenth and eighteenth centuries. The notion of a theory of knowledge based on mind, whether mind as photographic plate upon which the world imposes itself or mind as author engraving itself on the universe, traces back, in the case of the former, to Descartes and John Locke and, in the case of the latter, to Kant. Neither mind as a mirror of nature nor mind as unfettered template making its mark upon nature accounts very well for theoretical change, for the fact that new theories replace old and that each new theory, supported by its own metaphors, terms, and shades of meaning, offers us a different angle of vision on the world.

Different theories, influenced as they are by ideology, history, economics, and the like, elicit very different realities. These differing realities often occupy the penumbra of the same term. For instance, both Noam Chomsky and B. F. Skinner speak of behavior, but the content with which that term is infused differs markedly from the former to the latter. Chomsky, filled with enthusiasm for what is innate in man, fills behavior with genetic direction. Skinner, equally dedicated to the press of the environment, fills behavior with the Sturm und Drang of our surroundings. In each case, behavior is a fact, but the profound difference in their theoretical presuppositions makes it a very different fact for each man.

We can easily conjure up an example more relevant to librarianship. Marketplace theorists argue that library services ought to be distributed by the market mechanism. Their opposition, the friends of tax support, prefer that the allocation of library services be a matter of governmental decision. Both camps refer to the distribution of library

services, but the bottle of distribution is filled with very different wines by the admirers of the marketplace, on the one side, and the fans of governmental choice, on the other. Where the market exercises hegemony, library services would simply not be distributed to those without the wherewithal to enter the marketplace. Where there is governmental dictation, allocation could imply services for all of the library's potential clients. What mystifies for us the evocation of fact by theory is that, while different theories promote different facts, they often employ a common nomenclature or operate under a shared canopy of terms. The point is that facts do not emerge from matter's embossing itself on mind or from the straight imposition of mind upon what is physical, but rather from the organizing power of theories, theories which reflect the material conditions prevailing at the time of their development.

As the product of specific material conditions, a theory will alert its employer to particular aspects of the physical world. Fabricated in a material setting, a theory will construct for its partisans knowledge of a correspondingly unique material world. What we accept as knowledge or truth is, in fact, what the theoreticians of our day, enmeshed in classes, professions, religions, and so forth, say it is. But saying something is true and universal does not insure that it is other than false and parochial. In any era, the candidates for knowledge or truth are many. Given the impossibility of affirming theoretical assertions and the great difficulty engendered by our efforts to deny them, we should be prepared to be catholic and pluralist in our approach to assertions of knowledge.

Pluralism's Impact on the Theory of Librarianship

A Weltanschuungen view of the theory of librarianship waives any

claims to absolute truth and recognizes that its propositions are infected by the material and ideological conditions of the moment. Unlike mind, which has been taken to be either an optical phenomenon mirroring nature or a phenomenon of inscription recording itself upon nature, theory is a cultural artifact residing in the jungle of the relative. This view of theory is consonant with those developments, during the past few decades, which have tended to undermine claims to truth.

In an exciting, but very controversial, book, Philosophy and the Mirror of Nature, Richard Rorty suggests that there are no "privileged representations" in the zone of knowledge, nothing that we can accept as simply given or beyond doubt. Drawing first on the brilliant work of Wilfrid Sellars, he attacks the notion of the given. If someone says, "I feel just terrible," we are inclined to accept that as a given fact because we are not imaginative enough to figure out any way of doubting it. The report that someone is feeling rather poorly does not mean that such is the case. We can hardly afford that report the status of a given. It is foolish to canonize what people say about their inner states, but we do it all the time. Because we are incapable of looking within, we go ahead and accept what others report to us. Sellars wishes to point out that there is an alternative and that is not to accept what people tell us about their inner states, not to accord such reports the status of given.

Drawing next on the studies of Quine, Rorty denies that there are statements which are true beyond doubt. There is, in his judgment, no very clear distinction between statements that are true by definition, or true beyond doubt, and statements that are doubtful, in the sense that doubt can only be assuaged by resort to experience. Confronted with the statement, "No bachelor is married," an American might

say, "Of course." The statement would be recognized immediately as true by virtue of its definition or form. But if the statement is transported into West Africa, it could be difficult to interpret a tribesman's response to it. An assent could mean that the statement has been received as true by definition, in a way analogous to the American example just given. But an assent might also mean that the tribesman cannot recall any experience which would undermine the statement. Thus, there are in actuality no statements which are beyond doubt, even those which we take to be true by definition, because we are unable to account for the thinking which underlies agreement with such statements.

Sellars and Quine are instructive for the theoretician of librarianship because they endanger the old dichotomies - the given as opposed to the non-given and the necessary as contrasted with the contingent - which enforce the notion that knowledge can be an accurate representation of the world. For Sellars, there is ultimately only the nongiven; for Quine, only the empirically contingent. However much we may admire it from the outside, even the knowledge with which we are most pleased us dubitable, tenuous, shaky. Rorty summarizes rather neatly their critiques of indubitable knowledge:

> ...for Quine, a necessary truth is just a statement such that nobody has given us any interesting alternatives which would lead us to question it. For Sellars, to say that a report of a passing thought is incorrigible is to say that nobody has yet suggested a good way of predicting and controlling human behavior which does not take sincere first-person contemporary reports of thoughts at face-value.[52]

The cracking of the foundations of knowledge, the questioning of all claims to certainty in favor of the notion of knowledge as relative, as opinion deeply grounded in time and place and social conditions, obviously reduces our faith in any given theory of librarianship. This

applies as surely to theories involving values as it does to theories involving facts. The form of a theory of librarianship must, of course, extend hospitality to values as well as to facts.

Deriving a Problematic "Ought" from a Questionable "Is"

For centuries, philosophers have sought, by logical extrapolation, to derive what ought to be the case from what is, in fact, the case. It has been very hard for them to articulate any foolproof way of making the transition from the "is" to the "ought." In most instances, their attempts have presupposed that there is a firm "is" from which the "ought" could be logically derived. If, as has been suggested, there is no incorrigible "is," there would seem to be no logic which might convey us to an indubitable "ought." Pushed back even further, one could ask if there is an "is" at all. If there is no "is," of course, the "ought" would have to be derived from quite another source. And if a shaky "is" implies a shaky "ought," a non-existent "is" must, one supposes, imply a non-existent "ought." While we will content ourselves with a tenuous, rather than an entirely absent, "is," Martin Heidegger might have been thoroughly happy with the latter possibility. In his scintillating little vignette on this twentieth-century German philosopher, George Steiner writes:

> ...the wonder that was to preside over Heidegger's life declared itself early and inescapably: Why are there... things that are rather than nothing?....Why is there anything or something or everything, when there could be nothing...? In short, Heidegger is a man literally overcome by the notion of 'is' (Greek on), a man inexhaustibly astonished by the fact of existence, and haunted by the reality of that other possibility, which is nothingness (Sartre's néant).[53]

In his very recent Philosophical Explanations, Robert Nozick has grappled with the same question. Nozick believes that one explains

things by reference to other things. However, on the question posed by Heidegger, this rapidly involves one in a vicious circularity. According to Nozick, "any factor intended to explain why there is something will itself be part of the something to be explained...so it could not explain all of the something - it could not explain why there is anything at all."[54] Rather than entertain the idea of an absent "is," a cipher, we shall move on to a consideration of the relationship between a problematic "is" and the nature of what ought to be. While this decision may not be satisfying on philosophical grounds, it is so on pragmatic.

Kant asserted that we live in two worlds, a natural world in which we are natural objects and a moral world in which we are moral agents. But even if we regard our moral choices as fully naturalized, as directed by our participation in a material order, they do not rest on a very strong base. My sense is that the gap separating facts from values is unbridgeable only if we regard the facts as beyond question. If we hold our facts to be nothing but provisional, then our values can hardly be anything but problematic. There is a connection between the "is" and the "ought," but its recognition depends on our relinquishing the notion of a firm "is." Logically speaking, shaky facts are unlikely to beget certain values. If we replace the notion of objective fact, on the one hand, and the idea of autonomous, but subjective, morality, on the other, with the concepts of tenuous fact and contingent morality, we have already built a small bridge between the "is" and the "ought."

If we assume that there are only set facts independent of the choices which people make, then the "is"-"ought" nexus is invisible to us. If, on the contrary, one assumes that there are only characterizations of the facts, deeply rooted in history and culture, and only people

making decisions as to value, similarly grounded in history and culture, then it can be entertained that our values reflect our characterizations of the facts. The reason for this is that we are characterizing facts and making moral decisions in exactly the same material environment. The equivalence of the environment fosters the transition from a questionable "is" to an equally questionable "ought." Facts and values do not belong to different sectors, they are part of a common history and culture. In conclusion, descriptive statements and evaluative choices occupy the same plane. As characterizers of facts and choosers of values, we are living people filling roles within society. In the occupation of those roles, our facts bear upon our values and our values upon our facts. Choice as to the characterization of facts is inseparable from choice as to what is right or good. Neither as seeker of facts nor as maker of moral decisions does man transcend, or assume a position that is prior to, social role.[55]

Another way of formulating the above, albeit with a philosophical, rather than a sociological, twist, is to apply to it the Duhem-Quine-Lakatos thesis. That would be to insist that the test of any theory of fact or theory of value requires the juxtaposition of the theory with that set of statements upon which it depends for its meaning. A theory of fact must ordinarily be tested against a body of propositions which are normative as well as descriptive in character. A theory of value must ordinarily be tested against a body of propositions which are descriptive as well as normative in character.[56] A theory about what is right and wrong in commercial relations will, if Nietzsche is to be believed, presuppose theories of fact concerning who is exercising power in the society and how. In some respects, the argument that fact and value cannot be insulated from one another is tantamount to Quine's insistence that there are no sharp lines of demarcation separating

statements which are claimed to be true by reference to definition from statements which are claimed to be true by reference to fact. There is a convergence of fact and value which is not qualitatively different from the melding of definitional and empirical, or what the logical empiricists called analytic and synthetic, propositions.

In librarianship, both theories of fact and theories of value are demanded and it is important for theoreticians to recognize that they cannot be divorced from one another. Our decisions as to fact affect our decisions as to value and vice versa. More frequently than we are prepared to admit, for example, a library's decision to become user-oriented ("to give the users what they want") is affected by the characterization of the library as, now and even formerly, devoted to the satisfaction of user desire. The decision as to the "ought" simply formalizes, or makes a normative ideal, the characterization of the "is," the fait accompli of perception. The "ought" finds itself in the "is." Conversely, a supplier-oriented library, one which has been characterized as a place where the librarians select materials which they believe their users need, finds itself characterized as such, whether it is or not, because of a prior formal choice on the part of the library to be supplier-oriented. The "is" finds itself in the "ought." If it can be said that choice is strongly conditioned by the characterization of the facts, then it surely can be asserted that the characterization of the facts is comparably affected by prior choice. Facts are characterized, rather than objectively determined, because of the ongoing intervention of values. Reversing the situation, values are factualized because of the continuing influence of the characterized facts on choices as to what is good or right. Therefore, a global theory of librarianship would comprehend, as sub-sets, interacting theories of fact and value.

No study better illustrates the interaction of fact and value than a recent examination of public policy as it affected the distribution of public library materials and services in Oakland, California. Investigators from the Graduate School of Public Policy at the University of California in Berkeley found that decisions as to the allocation of resources by the Oakland Public Library were a direct result of the characterization of their present distribution. In Oakland, as, one suspects, elsewhere in urban America, tax monies were being appropriated from less-well-to-do neighborhoods and used to subsidize library services to more-well-to-do neighborhoods.[57] A characterization of what is the case has a large advantage over what is not characterized to be the case when it comes to deciding how library services will be distributed in the future. Like the very large majority of public policy decisions, the decision to take from the poor in order to support the rich was incremental. That such had been the characterization of the case in the past, privately, if not publicly, was enough to convince the authorities that such ought to be the pattern of resource redistribution in the future. Because it can be visualized concretely, what is taken to be the case is a much more powerful determinant of what ought to be the case than any alternative, abstract vision or image of how things should be. Their clear interaction, the periodic intersection of the "is" and the "ought," introduces the possibility of a synthesized theory of librarianship, one in which sub-theories of fact relate continuously to sub-theories of value.

The Form of a Theory of Librarianship: The Major Themes

The form of a viable theory of librarianship will take cognizance of several factors. In the first place, however elegantly it may be stated, it will not be confirmable. It will be refutable, but only

with herculean effort. Even the most substantial theory of librarianship will be shaky and subject to overthrow at any time. Its thorough test will require some measure of counterinduction. As a theory, it will elicit its own facts. It will, moreover, accommodate the interaction of fact and value. Most importantly, perhaps, it will be material as well as conceptual, Aristotelian as well as Platonic. It will be a theory comparable in excellence with the practice of librarianship.

A discussion of theory in librarianship can hardly conclude without a few hortatory comments on the desperate need for it. William James, according to Fritz Machlup, "proposed to distinguish between 'knowledge of' and 'knowledge about,' or ('mere dumb') knowledge by acquaintance and knowledge by systematic study and reflection."[58] Good theory of librarianship yields knowledge about, the most valuable kind of knowledge. That we have precious little of this kind of knowledge in librarianship may be a consequence of our failure to balance what the late Hannah Arendt, in The Human Condition, called the vita activa, or life of action, with the vita contemplativa, or life of reflection.[59] Because we feel pressed for time and are constantly on the go, the bulk of our knowledge is of, rather than about, something. This is especially true of our response in librarianship to high technology, to the devices of computation and communication, where, in my judgment, our thinking has been extraordinarily shallow. We need more reflection, and we need it badly.

To theorize is to pursue knowledge about, but it is also to recognize that the theoretical is not remote and cold, but filled with the warmth of humanity. In his short fantasy, "The Library of Babel," written at Mar del Plata in 1941, Jorge Luis Borges imagined that

> The Library exists ab aeterno. No reasonable mind can doubt this truth, whose immediate corollary is the future

> eternity of the world. Man, the imperfect librarian, may be the work of chance or of malevolent demiurges; the universe with its elegant endowment of shelves, of enigmatic volumes, of indefatigable ladders for the voyager, and of privies for the seated librarian, can only be the work of god. In order to perceive the distance which exists between the divine and the human, it is enough to compare the rude tremulous symbols which my fallible hand scribbles on the end pages of a book with the organic letters inside: exact, delicate, intensely black, inimitably symmetric.[60]

Borges was wrong. He was banefully influenced by the Kabbalists. The library, including the theories recorded therein, is a temporal, thoroughly human artifact. It is worth our time to theorize, to write theoretical books, and to deposit those books in the library. And this essay will have accomplished its ends if it has enhanced our pride in the theories of librarianship which we propose to place on deposit and compelled us to recognize the matter and humanity that are woven into them.

Notes

1 See "The First Book: Auto-da-Fé" (203-213) in Elias Canetti, The Conscience of Words (New York: Seabury Press, 1976, 1979).

2 The three parts of Auto-da-Fé, "A Head Without a World," "Headless World," and "The World in the Head," portray three relations between the internal world of Kien's mind and the external world of Vienna. See Elias Canetti, Auto-da-Fé (Translated by C. V. Wedgewood) (New York: Stein and Day, 1946).

3 Michel Foucault, The Order of Things (New York: Pantheon Books, 1971).

4 Abraham Kaplan, "The Age of the Symbol - A Philosophy of Library Education" (16) in Don R. Swanson (ed.), The Intellectual Foundations of Library Education (Chicago: University of Chicago Press, 1965).

5 Conrad H. Rawski, "Introduction" (48) in Conrad H. Rawski (ed.), Toward a Theory of Librarianship (Metuchen, New Jersey: Scarecrow Press, 1973).

6 Conrad H. Rawski, "The Interdisciplinarity of Librarianship" (116) in ibid.

7 See four of the theoretical essays of Joseph Z. Nitecki: "Public Interest and the Theory of Librarianship," College and Research Libraries, 25 (July, 1964), 269-278, 325; "Reflections on the Nature and Limits of Library Science," Journal of Library History, 3 (April, 1968), 103-119; "Metaphors of Librarianship: A Suggestion for a Metaphysical Model," Journal of Library History, 14 (Winter, 1979), 21-42; and "An Idea of Librarianship: An Outline for a Root-Metaphor Theory in Library Science" (106-120) in Donald G. Davis, Jr. (ed.), Libraries and Culture (Austin: University of Texas Press, 1981).

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9 Journal of Library History, 13 (Summer, 1978), 250-264.

10 H. Curtis Wright, "The Wrong Way To Go," Journal of the American Society for Information Science, 30 (March, 1979), 67.

11 Journal of the Association for Computing Machinery, 14 (October, 1967), 710-719.

12 Robert A. Fairthorne, "The Symmetries of Ignorance" (263) in Conrad H. Rawski (ed.), op cit.

13 Pierce Butler, An Introduction to Library Science (Chicago: University of Chicago Press, 1933, 1961), pp. 26-30.

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17 Jesse H. Shera, The Foundations of Education for Librarianship (New York: Becker and Hayes, 1972), p. 207.

18 Jesse H. Shera, Introduction to Library Science, p. 64.

19 The proliferation of Chicago Schools is quite remarkable, including those in sociology, led by Robert Park; in political science, led by Leo Strauss; and in economics, led by Milton Friedman.

20 For an entertaining discussion of the two types of time and how they are linked, see David Park, "Time and Form in the Physical World," Boston University Journal, 16 (1980), 22-32 and David Park, The Image of Eternity: Roots of Time in the Physical World (Amherst: University of Massachusetts Press, 1980), especially pp. 98-114.

21 Years ago, Vladimir Slamecka and Mortimer Taube insisted that there were both intellectual or conceptual and topological or physical relations among classes of information and that to ignore one relationship in favor of the other would be disastrous to any theory of librarianship. See their "Theoretical Principles of Information Organization in Librarianship," Library Quarterly, 34 (October, 1964), 352-361.

22 For an excellent discussion of Kant's model of mind, see Walter Kaufmann, Discovering the Mind: Goethe, Kant, and Hegel (New York: McGraw-Hill Book Company, 1980), pp. 83-103.

23 Gunther S. Stent, "Limits to the Scientific Understanding of Man," Science, 187 (21 March 1975), 1054. So important to our survival is space, especially three-dimensional perception, so strongly rooted is this category genetically, that we are inclined to read three dimensions onto the planar surfaces of classical optical illusions. See Stent's other work in this connection: "Thinking About Seeing," The Sciences, 20 (May-June, 1980), 6-11; Paradoxes of Progress (San Francisco: W. H. Freeman Company, 1978); and "Prematurity and Uniqueness in Scientific Discovery," Scientific American, 227 (December, 1972), 84-93.

24 See Gunther S. Stent, "Introduction" (1-18) in Gunther S. Stent (ed.), Morality as a Biological Phenomenon (Berkeley and Los Angeles: University of California Press, 1981).

25 Leon N. Cooper, "Source and Limits of Human Intellect," Daedalus, 109 (Spring, 1980), 14-16.

26 Karl H. Pribram, "Transcending the Mind-Brain Problem," Zygon, 14 (June, 1979), 104-105. See also Karl H. Pribram, "The Role of Analogy in Transcending Limits in the Brain Sciences," Daedalus, 109 (Spring, 1980), 32-35.

27 Discussions of the genesis of mathematics are contained in Philip J. Davis and Reuben Hirsch, The Mathematical Experience (Boston: Birkhäuser, 1980); Lynn Arthur Steen (ed.), Mathematics Today (New York: Springer-Verlag, 1978); and Morris Kline, Mathematics: The Loss of Certainty (New York: Oxford University Press, 1980), where there is some treatment of the Gödelian blow to mathematical certainty and to the mind-independent ontology of mathematics.

28 Morris Kline, "Partial Solutions," The Sciences, 21 (July-August, 1981), 27.

29 See Leslie A. White, "The Locus of Mathematical Reality: An Anthropological Footnote" (2348-2364) in James R. Newman (ed.), The World of Mathematics (Volume 4) (New York: Simon and Schuster, 1956) and "The Unreasonable Effectiveness of Mathematics in the Natural Sciences" (222-237) in Eugene P. Wigner, Symmetries and Reflections (Cambridge, Massachusetts: The MIT Press, 1967, 1970).

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34 Horace Freeland Judson, The Search for Solutions (New York: Holt, Rinehart and Winston, 1980).

35 See "The Hedgehog and the Fox" (22-81) in Isaiah Berlin, Russian Thinkers (New York: Viking Press, 1978).

36 Paul Ricoeur, Freud and Philosophy: An Essay in Interpretation (New Haven, Connecticut: Yale University Press, 1970), pp. 33-34.

37 Roland Barthes, Mythologies (New York: Hill and Wang, 1972), p. 11.

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